

State Water Resources Control Board

Meeting January 9, 2018

Agenda Item #5

Consideration to Approve Basin Plan Amendment to Establish Salinity Water Quality Objectives in the Lower San Joaquin River



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Presentation Overview

- I. Amendment Summary
- II. Public Comments and Responses
- III. Staff Recommendation

Amendment Summary

LSJR Salt/Boron Control Program

One River Segment – Two Phases

Phase 1 (2004/2006)

- Vernalis Salinity
- Salt Export

Phase 2 (Today)

- Upstream Salinity
- Reduced Reliance New Melones Reservoir Releases



Process

Stakeholder Participation in WQO Development

LSJR Committee

- CV-SALTS Subcommittee formed in 2010
- Diverse Group of Stakeholders
- Monthly Meetings
 - Review Technical Efforts
 - Policy Discussions
- Recommendations submitted to Central Valley Water Board at end of 2016

Process

Technical Studies

- White Papers
 - Aquatic Life/Stock Watering
- Salinity Protective of Agricultural Beneficial Use
 - Hoffman Model
- Modeling
 - Historic
 - Anticipated various implementation measures

Independent Scientific Peer Review

Evaluation of Water Code section 13241 Factors

Amendment Summary

Proposed EC Water Quality Objectives

1,550 $\mu\text{S}/\text{cm}$ WQO (30-day running average)

- Entire Water Year

1,350 $\mu\text{S}/\text{cm}$ EC Performance Goal

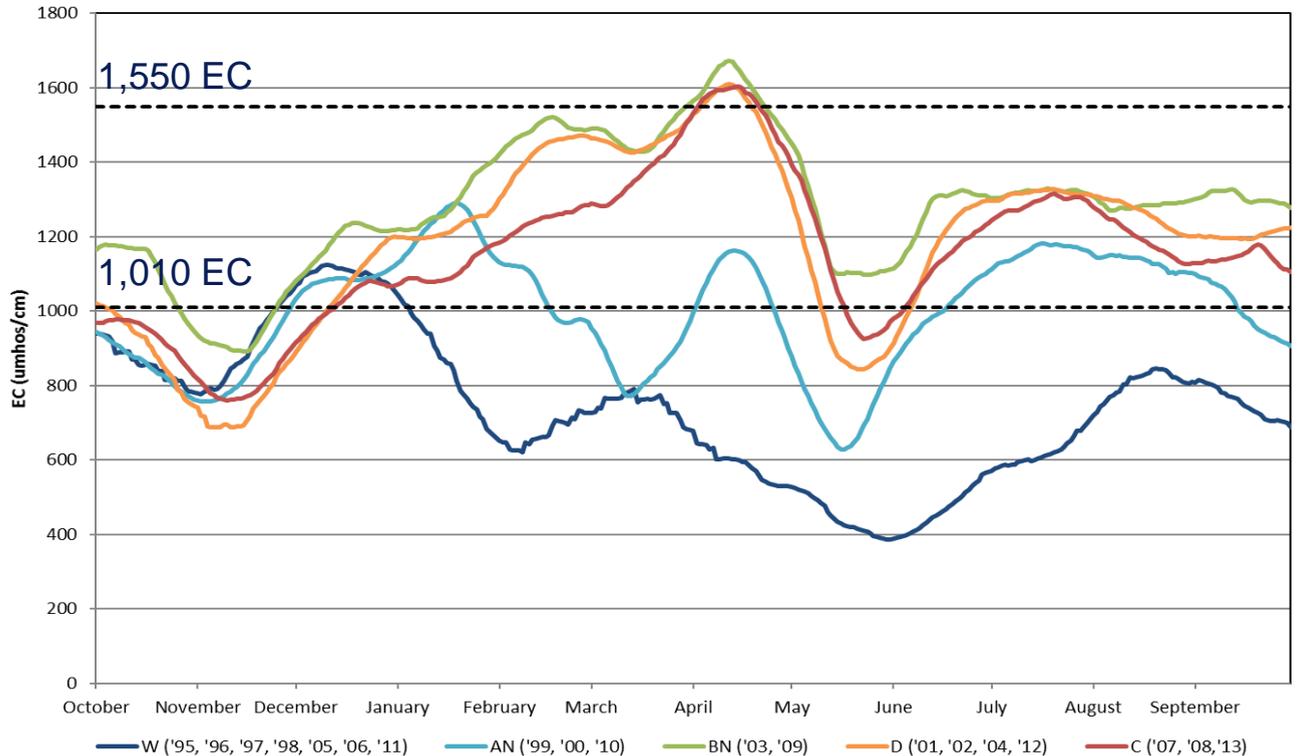
- Seasonal and Water Year Considerations

Extended Dry Period:

- **2,470** $\mu\text{S}/\text{cm}$ (30-day running average)
- **2,200** $\mu\text{S}/\text{cm}$ (annual average)

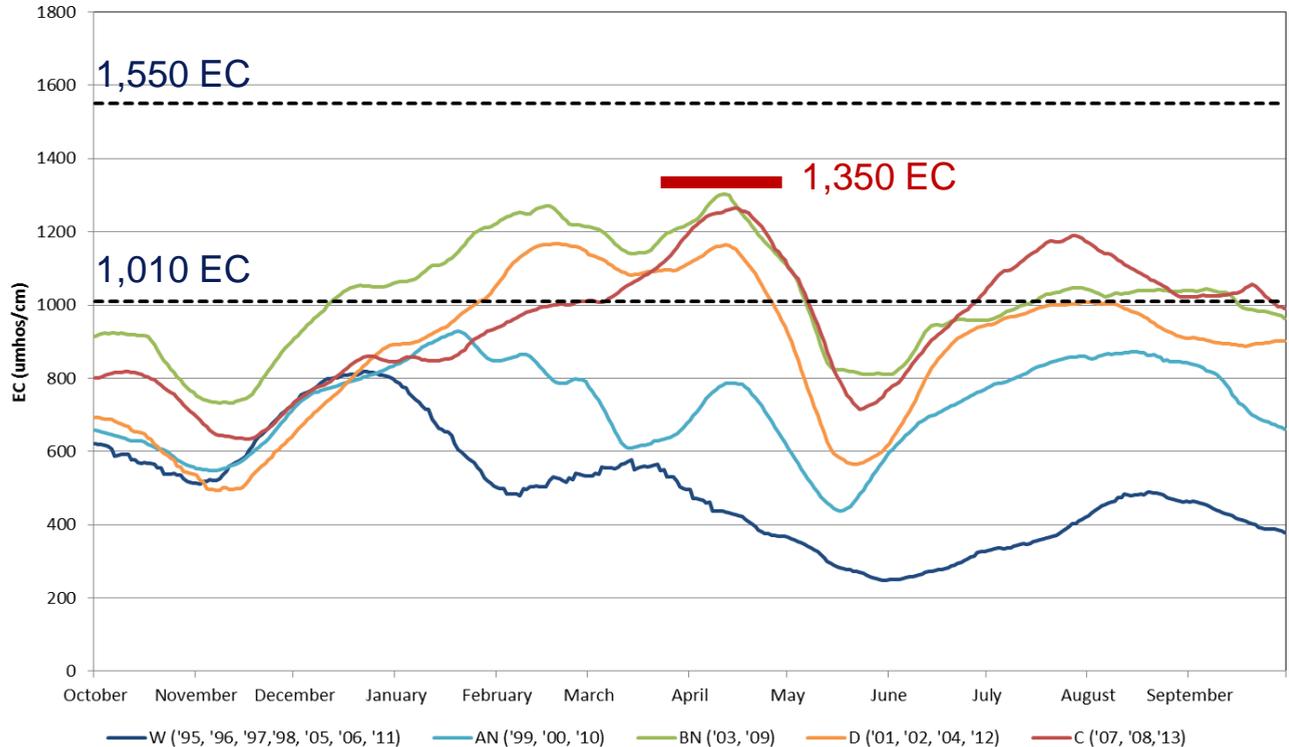
Amendment Summary

Historic EC at Crow's Landing
Running Average EC by Water Year Type
(Oct. 1, 1995 - Sept. 1, 2013)



Amendment Summary

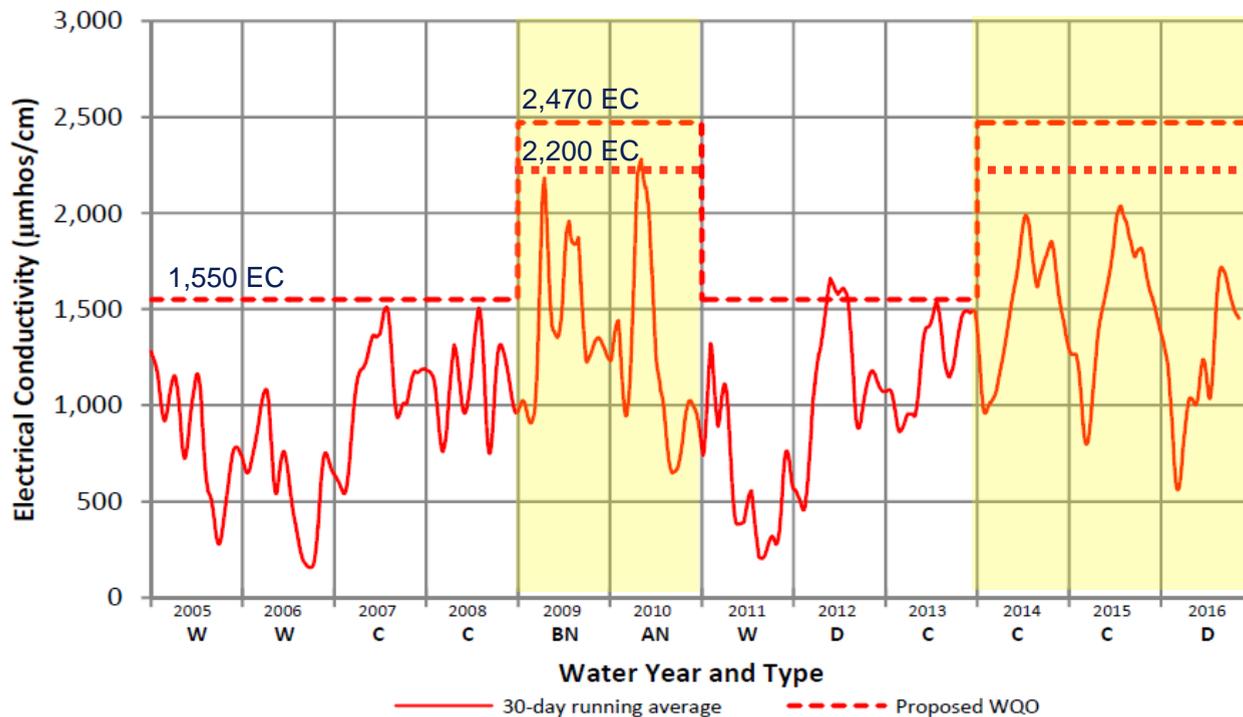
Modeled PLANNED Actions at Crow's Landing Adjusted to Historical EC by Water Year Type (Oct. 1, 1995 - Sept. 30, 2013)



Amendment Summary

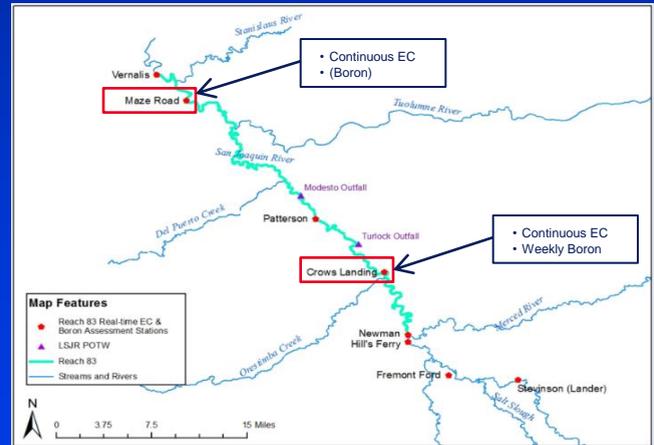
Extended Dry Periods

Crows Landing Monitoring Station



Amendment Summary

- Salinity Management – Planned Activities
 - Full Implementation of Grassland Bypass Project
 - Other management activities (e.g. drip irrigation)
- Monitoring and Surveillance (EC and Boron)
 - LSJR @ Crows Landing
 - LSJR @ Maze Road
- Basin Plan Re-opener
 - 10 years after adoption
 - Reassessment of Amendment



Amendment Summary

- Peer Review
 - Science and concepts sound
 - Consider new information/models in the future
- CEQA/Environmental and Antidegradation Analyses
 - No significant impacts
 - Salinity concentrations will improve over baseline
 - Consistent with State and Federal Antidegradation Policies
- Economic Analysis
 - Implementation actions rely on planned activities

Amendment Summary

Proposed EC Water Quality Objectives are:

- Protective of all Beneficial Uses in the LSJR, including AGR and MUN
 - AGR: Hoffman soil salinity model
 - MUN: Secondary MCL range
- Protective of Existing Boron WQOs
- An improvement in Water Quality
 - Lower salinity concentrations
 - Decreased salt loads



Public Written Comments

- Comment Period: Sep 28 – Oct 30, 2017
 - CALSPA, CWIN, AquAlliance
 - Contra Costa Water District
 - Merced Irrigation District
 - Joseph Rizzi
 - Stockton East Water District
 - US Bureau of Reclamation
 - San Joaquin Tributaries Authority

Public Written Comments

Supportive Comments

- Successful Stakeholder Participation Process
- Protects Beneficial Users while Reducing Reliance on New Melones for Dilution Flows

Critical Comments

1. Impact on Beneficial Uses and Water Quality in the Delta
2. Increased Reliance on New Melones Reservoir water
3. Impacts on Aquatic Life Beneficial Use
4. Use of the Hoffman Soil Salinity Model

Response To Comments

Comment 1:

Impact on Beneficial Uses and Water Quality in the Delta

Response:

Phase 1 of the Salt and Boron Control Program will continue to require compliance with the Vernalis salinity WQOs, which are protective of the south Delta

Response To Comments

Comment 2:

Degradation of water quality between the Tuolumne and Stanislaus, with subsequent increase in reliance on New Melones Reservoir for Dilution Flows (USBR)

Response:

Compared to baseline conditions, future salinity in the LSJR is expected to decrease with the implementation of the proposed amendments

- Worked with USBR to address concern
- Expected decrease in salinity upstream
 - Compliance point at Crow's Landing
- Performance Goals and Basin Plan Reopener

Response To Comments

Comment 3:

Aquatic life not protected (salinity impacts on fish migration and spawning of striped bass, sturgeon, American shad and salmon)

Response:

Staff Report updated: historical salinity water quality; biological resources; and beneficial uses and environmental baseline

- Migration occurs
- Spawning limited to wettest years
 - Salinity Barrier

Response To Comments

Comment 4:

Concerns regarding the use of the Hoffman Soil Salinity Model

Response:

- Peer Review: science and concepts were sound
- Policy Inputs by Ag Community:
 - 15% Leaching Fraction
 - 95% Crop Yield
 - Sensitive Crop to Protect: Almond
 - 95th percentile driest water year
- Models are improving
 - Re-evaluate in 10 years

Staff Recommendation

1. Approve Resolution to Amend Sacramento River and San Joaquin River Basin Plan
2. Authorize submittal to the Office of Administrative Law as approved
3. Authorize submittal to the U.S. Environmental Protection Agency for approval as water quality standards.

Questions/Comments?

Extra Slides

Hoffman Model Inputs

1,550 $\mu\text{S}/\text{cm}$ EC using Hoffman Model

- 15% Leaching Fraction
- **95% Crop Yield**
- Sensitive Crop to Protect: Almond
- 95th percentile driest water year

2,470 $\mu\text{S}/\text{cm}$ Extended Dry Period EC using Hoffman Model

- 15% Leaching Fraction
- **75% Crop Yield**
- Sensitive Crop to Protect: Almond
- 95th percentile driest water year

Special Considerations

Extended Dry Periods

Most Recent Drought

